

## Claims

1. A process for the distillation of vinylaromatic monomers in the presence of 4-tert-butylcatechol (TBC) and oxygen, wherein no aromatic nitro or amino compound is present in any effective amount.
2. A process as defined in claim 1, wherein the vinylaromatic monomer used is styrene.
3. A process as defined in claim 1 or claim 2, wherein 4-tert-butylcatechol is fed to the distillation apparatus concurrently with the vinylaromatic monomer, the concentration of 4-tert-butylcatechol in the distillation bottoms being in the range of from 200 to 15,000 ppm based on the vinylaromatic monomer.
4. A process as defined in any of claims 1 to 3, wherein the vacuum distillation is carried out at temperatures ranging from 40° to 125°C.
5. A process as defined in any of claims 1 to 4, wherein an oxygen-containing gas is metered into the distillation bottoms through a gas spray.
6. A process as defined in any of claims 1 to 5, wherein an oxygen-containing gas is metered in on the suction side of a circulating pump mounted upstream of the distillation assembly.
7. A process as defined in any of claims 1 to 6, wherein the oxygen is fed in at a rate of from 0.01 to 0.5 wt%, based on the weight of vinylaromatic monomer.